

Dust in Stellar Wind Bow Shocks

Dave Van Buren - STScI & JHU

A number of high velocity O stars have associated parsec-sized structures visible in the *IRAS* infrared. They can most readily be explained as the dense shells of stellar wind bow shocks. The infrared emission arises from starlight-heated post-shock dust, and possibly also from ionic lines. Emission from pre-shock dust is often seen as well, and allows in principle the empirical determination of the effects of shocks on dust. Since the observed bow shocks span a range of velocities a comparison with theories for shock destruction of dust is possible.